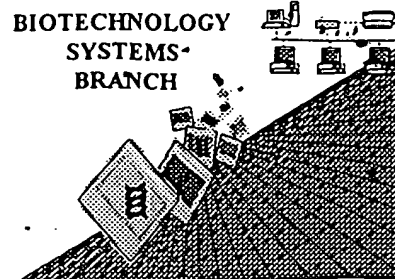


RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/286166B
Source: AU1600
Date Processed by STIC: 11/08/01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

BEST AVAILABLE COPY

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 11/08/01

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY

- 1 Wrapped Nucleics
 Wrapped Aminos
The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to 3; this will prevent "wrapping."
- 2 Invalid Line Length
The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino
 Numbering
The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII
The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length.
Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0
 "bug"
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences
 (OLD RULES)
Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
(1) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(ii) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped.

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequence.
- 8 Skipped Sequences
 (NEW RULES)
Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
<210> sequence id number
<400> sequence id number
000
- 9 Use of n's or Xaa's
 (NEW RULES)
Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represent.
- 10 Invalid <213>
 Response
Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or Artificial Sequence.
- 11 i Use of <220>
Sequence(s) 63 missing the <220> "Feature" and associated numeric identifiers and responses.
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rule)
- 12 PatentIn 2.0
 "bug"
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n
n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

1600

RAW SEQUENCE LISTING

DATE: 11/08/2001

PATENT APPLICATION: US/09/286,166B

TIME: 09:06:19

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\11082001\I286166B.raw

3 <110> APPLICANT: Fowlkes, Dana M.
 4 Broach, Jim
 5 Manfredi, John
 6 Klein, Christine
 7 Murphy, Andrew J.
 8 Paul, Jeremy
 9 Trueheart, Joshua
 11 <120> TITLE OF INVENTION: YEAST CELLS ENGINEERED TO PRODUCE PHEROMONE SYSTEM
 12 PROTEIN SURROGATES, AND USES THEREFOR
 14 <130> FILE REFERENCE: CPI-012CP4BCN
 16 <140> CURRENT APPLICATION NUMBER: 09/286,166B
 17 <141> CURRENT FILING DATE: 1999-04-05
 19 <150> PRIOR APPLICATION NUMBER: 08/322,137
 20 <151> PRIOR FILING DATE: 1994-10-13
 22 <150> PRIOR APPLICATION NUMBER: 08/309,313
 23 <151> PRIOR FILING DATE: 1994-09-20
 25 <150> PRIOR APPLICATION NUMBER: 08/190,328
 26 <151> PRIOR FILING DATE: 1994-01-31
 28 <150> PRIOR APPLICATION NUMBER: 08/041,431
 29 <151> PRIOR FILING DATE: 1993-03-31
 31 <160> NUMBER OF SEQ ID NOS: 133
 33 <170> SOFTWARE: PatentIn Ver. 2.0
 35 <210> SEQ ID NO: 1
 36 <211> LENGTH: 89
 37 <212> TYPE: PRT
 38 <213> ORGANISM: Saccharomyces cerevisiae
 40 <400> SEQUENCE: 1
 41 Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
 42 1 5 10 15
 44 Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
 45 20 25 30
 47 Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe
 48 35 40 45
 50 Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu
 51 50 55 60
 53 Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val
 54 65 70 75 80
 56 Ser Leu Asp Lys Arg Glu Ala Glu Ala
 57 85
 60 <210> SEQ ID NO: 2
 61 <211> LENGTH: 76
 62 <212> TYPE: PRT
 63 <213> ORGANISM: Saccharomyces cerevisiae
 65 <400> SEQUENCE: 2
 66 Trp His Trp Leu Gln Leu Lys Pro Gly Gln Pro Met Tyr Lys Arg Glu
 67 1 5 10 15
 69 Ala Glu Ala Glu Ala Trp His Trp Leu Gln Leu Lys Pro Gly Gln Pro

Does Not Comply
 Corrected Diskette Needed

See page 5 of 7B

checked by kelle
 field 220
 field 223

RAW SEQUENCE LISTING

DATE: 11/08/2001

PATENT APPLICATION: US/09/286,166B

TIME: 09:06:19

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\11082001\I286166B.raw

```

70          20          25          30
72 Met Tyr Lys Arg Glu Ala Asp Ala Glu Ala Trp His Trp Leu Gln Leu
73          35          40          45
75 Lys Pro Gly Gln Pro Met Tyr Lys Arg Glu Ala Asp Ala Glu Ala Trp
76          50          55          60
78 His Trp Leu Gln Leu Lys Pro Gly Gln Pro Met Tyr
79 65          70          75
82 <210> SEQ ID NO: 3
83 <211> LENGTH: 15
84 <212> TYPE: DNA
85 <213> ORGANISM: Artificial Sequence
87 <220> FEATURE:
88 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic sk
89     sequence
91 <400> SEQUENCE: 3
92 aagcttaaaa gaatg 15
95 <210> SEQ ID NO: 4
96 <211> LENGTH: 37
97 <212> TYPE: DNA
98 <213> ORGANISM: Artificial Sequence
100 <220> FEATURE:
101 <221> NAME/KEY: CDS
102 <222> LOCATION: (1)..(24)
104 <220> FEATURE:
105 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic sk
106     sequence
108 <400> SEQUENCE: 4
109 aaa gaa gaa ggg gta tct ttg ctt aagctcgaga tct 37
110 Lys Glu Glu Gly Val Ser Leu Leu
111 1          5
114 <210> SEQ ID NO: 5
115 <211> LENGTH: 8
116 <212> TYPE: PRT
117 <213> ORGANISM: Artificial Sequence
119 <220> FEATURE:
120 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic sk
121     sequence
123 <400> SEQUENCE: 5
124 Lys Glu Glu Gly Val Ser Leu Leu
125 1          5
128 <210> SEQ ID NO: 6
129 <211> LENGTH: 77
130 <212> TYPE: DNA
131 <213> ORGANISM: Artificial Sequence
133 <220> FEATURE:
134 <221> NAME/KEY: misc_feature
135 <222> LOCATION: (29)..(66)
136 <223> OTHER INFORMATION: Any occurrences of n may be any nucleotide sk
138 <220> FEATURE:

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/286,166B

DATE: 11/08/2001

TIME: 09:06:19

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\11082001\I286166B.raw

139 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 140 sequence
 142 <400> SEQUENCE: 6
 W--> 143 cgtgaagctt aagcgtgagg cagaagctnn knnknnknnk nnknnknnkn nknnknnknn 60 *ok*
 W--> 145 knnknnktga tcattccg 77
 148 <210> SEQ ID NO: 7
 149 <211> LENGTH: 19
 150 <212> TYPE: PRT
 151 <213> ORGANISM: Artificial Sequence
 153 <220> FEATURE:
 154 <221> NAME/KEY: VARIANT
 155 <222> LOCATION: (7)..(19)
 156 <223> OTHER INFORMATION: Any occurrences of Xaa may be any amino acid
 158 <220> FEATURE:
 159 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 160 sequence
 162 <400> SEQUENCE: 7
 W--> 163 Lys Arg Glu Ala Glu Ala (Xaa) Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa *ok*
 164 1 5 10 15
 W--> 166 Xaa Xaa Xaa
 170 <210> SEQ ID NO: 8
 171 <211> LENGTH: 36
 172 <212> TYPE: PRT
 173 <213> ORGANISM: Saccharomyces cerevisiae
 175 <400> SEQUENCE: 8
 176 Met Gln Pro Ser Thr Ala Thr Ala Ala Pro Lys Glu Lys Thr Ser Ser
 177 1 5 10 15
 179 Glu Lys Lys Asp Asn Tyr Ile Ile Lys Gly Val Phe Trp Asp Pro Ala
 180 20 25 30
 182 Cys Val Ile Ala
 183 35
 186 <210> SEQ ID NO: 9
 187 <211> LENGTH: 19
 188 <212> TYPE: DNA
 189 <213> ORGANISM: Artificial Sequence ✓
 191 <220> FEATURE:
 192 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic ✓
 193 sequence
 195 <400> SEQUENCE: 9
 196 aagctttcga atagaaatg 19
 199 <210> SEQ ID NO: 10
 200 <211> LENGTH: 36
 201 <212> TYPE: DNA
 202 <213> ORGANISM: Artificial Sequence ✓
 204 <220> FEATURE:
 205 <221> NAME/KEY: CDS
 206 <222> LOCATION: (1)..(27)
 208 <220> FEATURE:
 209 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic ✓

RAW SEQUENCE LISTING

DATE: 11/08/2001

PATENT APPLICATION: US/09/286,166B

TIME: 09:06:19

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\11082001\I286166B.raw

```

210     sequence
212 <400> SEQUENCE: 10
213 gcc gct cca aaa gaa aag acc tcg agc tcgcttaag           36
214 Ala Ala Pro Lys Glu Lys Thr Ser Ser
215   1             5
218 <210> SEQ ID NO: 11
219 <211> LENGTH: 9
220 <212> TYPE: PRT
221 <213> ORGANISM: Artificial Sequence
223 <220> FEATURE:
224 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
225     sequence
227 <400> SEQUENCE: 11
228 Ala Ala Pro Lys Glu Lys Thr Ser Ser
229   1             5
232 <210> SEQ ID NO: 12
233 <211> LENGTH: 79
234 <212> TYPE: DNA
235 <213> ORGANISM: Artificial Sequence
237 <220> FEATURE:
238 <221> NAME/KEY: misc_feature
239 <222> LOCATION: (27)..(58)
240 <223> OTHER INFORMATION: Any occurrences of n may be any nucleotide
242 <220> FEATURE:
243 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
244     sequence
246 <400> SEQUENCE: 12
W--> 247 ggtactcgag tgaaaagaag gacaacnnkn nknnknnknn knnnknnknk nnknnknnkt 60  ok
249 gtgttattgc ttaagtacg                                     79
252 <210> SEQ ID NO: 13
253 <211> LENGTH: 22
254 <212> TYPE: PRT
255 <213> ORGANISM: Artificial Sequence
257 <220> FEATURE:
258 <221> NAME/KEY: VARIANT
259 <222> LOCATION: (8)..(18)  ok
260 <223> OTHER INFORMATION: Any occurrences of Xaa may be any amino acid
262 <220> FEATURE:
263 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
264     sequence
266 <400> SEQUENCE: 13
W--> 267 Ser Ser Glu Lys Lys Asp Asn Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
268   1             5             10             15
W--> 270 Xaa Xaa Cys Val Ile Ala
271             20
274 <210> SEQ ID NO: 14
275 <211> LENGTH: 34
276 <212> TYPE: DNA
277 <213> ORGANISM: Artificial Sequence

```

RAW SEQUENCE LISTING

DATE: 11/08/2001

PATENT APPLICATION: US/09/286,166B

TIME: 09:06:19

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\11082001\I286166B.raw

279 <220> FEATURE:
280 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
281 sequence
283 <400> SEQUENCE: 14
284 gttaagaacc atatactagt atcaaaaatg tctg 34
287 <210> SEQ ID NO: 15
288 <211> LENGTH: 35
289 <212> TYPE: DNA
290 <213> ORGANISM: Artificial Sequence ✓
292 <220> FEATURE:
293 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic ✓
294 sequence
296 <400> SEQUENCE: 15
297 tgatcaaaat ttactagttt gaaaaagtaa tttcg 35
300 <210> SEQ ID NO: 16
301 <211> LENGTH: 28
302 <212> TYPE: DNA
303 <213> ORGANISM: Artificial Sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic ✓
307 sequence
309 <400> SEQUENCE: 16
310 ggcaaaatac tagtaaaatt ttcattgc 28
313 <210> SEQ ID NO: 17
314 <211> LENGTH: 34
315 <212> TYPE: DNA
316 <213> ORGANISM: Artificial Sequence
318 <220> FEATURE:
319 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
320 sequence
322 <400> SEQUENCE: 17
323 ggcccttaac acactagtgt cgcattatat ttac 34
326 <210> SEQ ID NO: 18
327 <211> LENGTH: 60
328 <212> TYPE: DNA
329 <213> ORGANISM: Artificial Sequence
331 <220> FEATURE:
332 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
333 sequence
335 <400> SEQUENCE: 18
336 ctaaagaaga aggggtatct ttgcttaagc tcgagatctc gactgataac aacagtgtag 60
339 <210> SEQ ID NO: 19
340 <211> LENGTH: 31
341 <212> TYPE: DNA
342 <213> ORGANISM: Artificial Sequence
344 <220> FEATURE:
345 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
346 sequence
348 <400> SEQUENCE: 19

<210> 53

<211> 11

<212> PRT

<213> Artificial Sequence

<400> 53

Tyr Ala Leu Phe Val His Phe Phe Asp Ile Pro

1

5

Actual Diskette Content

A 213 response of "Artificial Sequence"
requires a mandatory explanation
in field 223.

VERIFICATION SUMMARY

DATE: 11/08/2001

PATENT APPLICATION: US/09/286,166B

TIME: 09:06:20

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\11082001\I286166B.raw

L:143 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:145 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:270 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13.
L:458 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:489 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29
L:623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39
L:806 M:258 W: Mandatory Feature missing, <220> FEATURE:
L:806 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:
L:1822 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:1849 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:124

*look at asterisks
seq 39.*